SOLICITATION, OFFER AND AWARD

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE 1 OF PAGES 47

2. CONTRACT NO.	3. SOLICITATION NO.	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NO.
	N65540-06-R-0015	[ ] SEALED BID (IFB) [X] NEGOTIATED (RFP)	05 May 2006	06-CAM-003

7. ISSUED BY	CODE	8. ADDRESS OFFER TO (If other than Item 7)	CODE
NAVAL SURFACE WARFARE CENTER, CARDEROCK CODE 3351, CAMILLE MESQUITA 5001 SOUTH BROAD ST. PHILADELPHIA PA 19112-5083 TEL: 215-897-1245 FAX: 215-897-7059	N65540	**See Item 7** TEL: FAX:	

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and 1 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in RM 2900 until 02:00 PM (Hour) local time 05 Jun 2006 (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (Include area code) *(NO COLLECT CALLS)*	C. E-MAIL ADDRESS
	CAMILLE A. MESQUITA	215-897-1245	camille.mesquita@navy.mil

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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)				
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)

15B. TELEPHONE NO (Include area code)	15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.	17. SIGNATURE	18. OFFER DATE
	☐		

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: ☐ 10 U.S.C. 2304(c)( ) ☐ 41 U.S.C. 253(c)( )	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM

24. ADMINISTERED BY (If other than Item 7) CODE	25. PAYMENT WILL BE MADE BY CODE

26. NAME OF CONTRACTING OFFICER (Type or print) TEL: EMAIL:	27. UNITED STATES OF AMERICA (Signature of Contracting Officer)	28. AWARD DATE

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Each		

Water Treatment System
FFP
Fully automated, self-contained blackwater and graywater treatment system, meeting the requirements of the Acquisition Specification included as Section C of this Solicitation, installed aboard USCG Cutter (CGC) Bluebell
FOB: Destination
PURCHASE REQUEST NUMBER: 06-CAM-003

NET AMT

ADDITIONAL INFORMATION

On March 17, 2006 a presoliciation notice was posted to the FEDBIZOPPS website inviting potential offerors to a site visit aboard the USCGC BLUEBELL. During that event, several questions were posed by vendors. Those questions and the responses to the questions are set forth below.

Vendor Questions during Shipcheck of USCGC BLUEBELL

1. **Question:** "Where are all the interfaces with the desired equipment?"
   Response: See the drawings listed at the website provided in the Acquisition Specification.

2. **Question:** "Does Graywater go overboard?"
   Response: Yes. 95% of Graywater piping needed to pipe graywater to a MSD exists, but is not currently connected. Vendors responding to this solicitation are not responsible for alterations, only the unit itself.

3. **Question:** "Are all we doing is providing the unit? Does someone else do electricity, etc.?"
   Response: Yes.

4. **Question:** "What is Cascade doing under the current contract with USCGC BLUEBELL? How often does this ship go into dry dock and into maintenance period? "

   Response: Level 2 inspection (pod test), stress crack test, maintenance. Dockside maintenance periods occur yearly and dry docking occurs every four years (Next dry dock is scheduled for 2008).

5. **Question:** "What is the diameter of the main exhaust vent?"
   Response: The main exhaust diameter is two feet.

6. **Question:** "Do you have an idea of how many feet it is up to the stack of the vent?"

Response: Approximately 24 feet total (17 feet in static).

7. **Question:** "When was the tank last inspected ?"
   Response: Tank was last inspected 20 March 2006 with only minor corrosion at the base of the tank noticed.

8. **Question:** "Is there a side view drawing?"
   Response: Yes, see the drawings listed at the website provided in the Acquisition Specification.

9. **Question:** "Are sewage pumps #1 and #2 for port and starboard?
   Response: Yes.

10. **Question:** "Do you have a flow curve on the sewage pumps?"
    Response: No.

11. **Question:** "Can the gyro located directly above the sewage tank be relocated?
    Response: Yes, but not desired.

12. **Question:** Is the sonic flow meter currently in place on the drawing ?"
    Response: No.

13. **Question:** " When does the alarm for the tank come on?"
    Response: Approximately 740 gallons.

14. **Question: "** The sonic flow meter reads 280 gallons right now, how many days has that been since that tank was last pumped ?"
    Response: Three (3) weeks prior to the site visit.

15. **Question:** "Where does USCG stop for water and sewer service?"
    Response: Kennewick, WA at the USCG station and other USCG stations and campgrounds along the Columbia River and tributaries.

16. **Question:** "Is this tank 800 gallons instead of 700 gallons as noted in the acquisition"-specification?"
    Response: Actual optimal "working" tank capacity should be assumed to be no greater than 700 gallons.

Any addional questions must be submitted to camille.mesquita@navy.mil and regina.shuster@navy.mil no later than COB 17 May 2006 in order to be considered.

Section C - Descriptions and Specifications

ACQUISITION SPECIFICATION

ACQUISITION SPECIFICATION
FOR BLACKWATER AND GRAYWATER TREATMENT SYSTEM FOR
UNITED STATES COAST GUARD CUTTER (CGC) BLUEBELL

3.8.3.1.1 SCOPE

1.1 Scope. This specification covers a fully automated, self-contained treatment system that provides treatment of blackwater and graywater onboard United States Coast Guard Cutter (CGC) BLUEBELL, equipped with blackwater vacuum collection and graywater gravity collection systems. The treatment system must provide the entire process required to treat incoming wastewater mixture in accordance with this specification. Systems that provide partial treatment, or that must be used in combination with other systems, do not comply with this specification.

3.8.3.1.2 APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are cited in section 3 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract. United States Coast Guard Specifications and Drawings listed below can be found at the following website - http://www.uscg.mil/mlcpac/mlcp/Eng%20Support/mlcpv/platformsupport.htm.

UNITED STATES COAST GUARD SPECIFICATIONS AND DRAWINGS:

180-TE 4808-2, Rev -	Drainage System
180-TE 4808-3, Rev A	Sanitary Drainage System (BLUEBELL) (313)
180-TE 4808-4, Rev B	Installation of Vacuum Flush System (BLUEBELL) (313)
180-TE 103-5, Rev H	Booklet of Plans (BLUEBELL) (313)

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-F-24385	-	Fire Extinguishing Agent, Aqueous Film-Forming Foam (AFFF) Liquid Concentrate, for Fresh and Seawater

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-777	-	Schedule of Piping, Fittings, and Associated Piping Components for Naval Ships
MIL-STD-1310	-	Standard Practice for Shipboard Bonding, Grounding, and Other Techniques for Electromagnetic Compatibility and Safety

(Copies of the above documents are available online at http://assist.dap.dla.mil/quicksearch or www.dodssp.daps.mil or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are cited in the solicitation or contract.

AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE)

ASSE 1013	-	Product Performance Standard for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Fire Protection Principle Backflow Preventers

(Copies of the above document are available online at www.asse.org or from the International Office, American Society of Sanitary Engineers, 901 Canterbury Road, Suite A, Westlake, OH 44135. (440) 835-3040)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM F 1166	-	Human Engineering Design for Marine Systems, Equipment, and Facilities

(Copies of the above document are available online at www.astm.org or from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken PA, 19428.)

AMERICAN WATER WORKS ASSOCIATION

Standard Methods for the Examination of Water and Wastewater, 19th ed., 1995

(Copies of the above document are available online at http://www.awwa.org/)

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

NEMA 250	-	Enclosures for Electrical Equipment (1,000 Volts Maximum)

(Copies of the above document are available online at http://www.nema.org/)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.5 Intended use

(This section contains information of a general or explanatory nature that may be helpful.)

The treatment system described in this specification is intended for use onboard CGC BLUEBELL to process combined blackwater and graywater, to consistently produce a liquid discharge acceptable for overboard discharge. The overall intended service life of the treatment system is 30 years. The system may contain a post-treatment ultraviolet component. All effluent levels must be met as specified in section 3.6.2.1.

The following information is provided:

(1) Waste Sources. Washing machine (Frames 26-32, Plate No. 6, Hold); Crew toilets (2), sinks (2), urinal, and shower (Frames 38-44, Plate No. 5, Main & Trunk Decks); Officer toilet, sink and shower (A-0104-L) (Frames 44-58, Plate No. 5, Main & Trunk Decks); Galley (sink and dishwasher) (Frames 82-96, Plate No. 6, Hold). Reference: BLUEBELL Drawing No. 180 TE-0103-5.

(2) Voltage Requirements are 208Y/120.

(3) Power is not to exceed 5 kw.

2.6 Definitions.

Average daily flow. The average flow rate occurring over a 24-hour period.

Blackwater (or sewage). Blackwater is human body wastes and the wastes from toilets and other receptacles intended to receive or retain body waste. Also referred to as sewage.

Discharge. Includes spilling, leaking, pumping, pouring, emitting, emptying, and dumping.

Effluent. Treated wastewater produced by the treatment system.

Fail-safe. A design feature or component that automatically places itself in a safe operating mode in the event of a failure.

Failure. The event, or inoperable state, in which any item or part of the treatment system does not, or would not, perform as previously specified.

Fecal Coliform (FC). A microorganism that is found in human and animal wastes, commonly used as an indicator of water quality. The analytical parameter is measured in colongy forming units per 100 milliliters (cfu/100mL) or most probably number per 100 milliliters (MPN/100mL).

Five-day Biochemical Oxygen Demand (BOD_5). The amount of oxygen used by microorganisms that break down organic matter in water in five days. The analytical parameter is measured in milligrams per liter (mg/L).

Graywater. Graywater is discarded water from deck drains, lavatories, showers, dishwashes, laundries, and garbage grinders as well as discarded water from shipboard medical facilities, but does not include industrial wastes, infectious wastes, and human body wastes.

Hazardous and ozone depleting materials. Hazardous and ozone depleting materials are those that exceed the limits defined below that have been derived from federal and state regulations:

(a) Contains =1.0% by weight of any one or more of 29 chemicals/families as defined by the EPA 17-33/50 Program List and the Naval Environmental Health Center Priority I and II Lists.

(b) Contains =0.1% by weight of a carcinogen (known or suspect) as defined by the Occupational Safety and Health Administration (OSHA 29 CFR 1917.28 Appendix A), the International Agency for Research on Cancer (IARC) including materials listed in Group 1 (carcinogenic to humans), 2A (limited human data), and 2B (sufficient animal data), and the National Toxicology Programs.

(c) Contains =1.0% by weight of one or more of 56 ozone-depleting substances (Class 1 and 2) as defined by the EPA Clean Air Act Amendments of 1990 (40 CFR 92).

(d) Exceeds specified Volatile Organic Compound (VOC) content (as defined in 40 CFR 51.100) equal to or greater than 340 grams per liter (2.8 pounds per gallon) for corrosion preventative materials or 880 grams per liter (7.3 pounds per gallon) for lubricant materials.

(e) Possesses Resource Conservation and Recovery Act (RCRA, 40 CFR 261) hazardous waste characteristic(s) such as flash point <140?F; pH<2.0 or >12.5; or oxidizers.

(f) Contains =0.1% by weight of a reproductive hazard as defined by OPNAVINST 5100.23E 15 January 1999 Chapter 29 Occupational Reproductive Hazards and 31 March 1998 Navy Reproductive Hazards Review Board Meeting.

Hydraulic retention time (HRT). The average amount of time a theoretical wastewater molecule is retained in a system before exiting (overboard) as effluent.

Influent. The influent stream to be processed by the treatment system.

Manufacturer. A company that manufactures, assembles, or imports treatment or elimination systems for marine vessels.

Maximum daily flow. The maximum flow rate occurring during a 24-hour period.

Minimum daily flow. The minimum flow rate that occurs over a 24-hour period during periods of reduced manning.

Oil and grease. Oils represent the set of greasy substances that are liquid or can be liquified easily, and that are soluble in solvents (such as ether) but not water. Greases represent the set of thick, oily, lubricant substances that can be formed of material such as lard, rendered fats, or from petroleum-derived or synthetic oils containing thickening agents.

Pretreatment waste. Solids separated from the influent during a pretreatment step, if used. Such solids include rags, tampons, cigarette filters and paper.

Sludge. Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Total Suspended Solids (TSS). A measure of the amount of suspended solids, both organic and inorganic, found in wastewater. The analytical parameter is measured in milligrams per liter (mg/L).

Vacuum Collection, Holdinig and Transfer (VCHT). An independent, auxiliary reduced flush collection and transfer system designed to collect sewage and pump the waste to shore facilities in port or directly overboard at sea.

Waste solid. Defined as garbage, trash, rubbish, refuse, pretreatment sludge, water supply treatment or pollution control discarded material, including solid, liquid, semisolid or contained gaseous material.

Wastewater. Used in this document to refer to combined blackwater and graywater.

3. REQUIREMENTS

3.1 Description. The treatment system shall be fully automatic, self-contained and ready for operation with the ship's physical, electrical, electronic, and other architecture. The system shall include all equipment, controls, structure, non-hull integrated tanks, and special tools associated with processing the liquid waste stream. The intended system must filter the source blackwater and graywater using an automated backflush filtration system. The backflush system cannot utilize potable or river/seawater except for maintenance during offline periods. The system must operate by removing biomass at a level of 98% efficiency or greater. All effluent levels must be met as specified in section 3.6.2.1.

3.1.1 Acceptance testing. Acceptance/qualification is required and shall be done by the US Coast Guard or an organization, other than the vendor, tasked by the US Coast Guard. A matrix of acceptance testing to be performed is included as Appendix I to this document.

3.2 Materials. The contractor shall select the materials, but the materials selected shall be capable of meeting all of the requirements specified in this section. All materials shall be commercially available and conform to applicable marine standards and practices.

3.3 Chemical resistance. All materials in contact with the wastewater influent and/or process byproducts shall be compatible, with no evidence of deleterious effect, with the following: blackwater; graywater; fresh or seawater flush water; toilet bowl cleaners; detergents (household, laundry, and bilge cleaning type); any disinfectant required in the operation of the system; brominated potable water; any chemical compound in solid, liquid or gaseous form used in the operation and cleaning of the system; engine oil; ethylene glycol; distillate; mineral spirits; methyl alcohol; effluent and intermediate process fluids produced in the treatment system; and any vapors produced in the treatment system.

3.3.1 Dissimilar metals. Except when effectively insulated from one another, dissimilar metals shall not be used in the presence of an electrolyte or water.

3.3.2 Material deterioration, prevention and control. The treatment system shall be fabricated from compatible materials, inherently corrosion resistant to or treated to provide protection against corrosion and microbial deterioration for the system's service life and in any environment specified herein. The system and its components shall be protected against galvanic corrosion.

3.3.3 Hazardous and ozone depleting materials. The materials and operational processes used for the treatment system shall not rely on hazardous or toxic materials or ozone depleting chemicals. Any oxidizing agents generated/consumed within the treatment system must be enclosed at all times within rust-proof containers and piping to prevent the possibility of explosive decomposition.

3.3.4 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.4 Physical characteristics.

3.4.1 Physical size. When in the installed position, the treatment system configuration of equipment, piping and non-hull integrated tanks along with all access envelopes (operation, maintenance, repair and equipment removal) must fit in the existing compartment space measuring 106 x 66 x 72 in (LxWxH). Existing configuration includes a removable 700-gallon tank that can be used for treatment system. For more detail, refer to drawings on the website listed in Section 2.2.1 above.

3.4.2 Weight. The wet weight of the treatment system shall not exceed the weight budget of the CGC BLUEBELL. The maximum weight allowable for the treatment system is 11,200 lbs or 5080 kg. The maximum wet weight allowable includes pumps, controllers, and piping along with the MSD unit to be located within frames 32-44.

3.4.3 Modularity. All treatment system parts and consumables requiring replacement per manufacturers' maintenance schedules over the service life of the ship shall be capable of passing through standard doorways 26 inches wide by 66 inches high, reduced further by round corners on an 8 inch radius, and hatches 30 inches wide by 60 inches long, reduced further by round corners on a 7.5 inch radius.

3.5 Performance characteristics. As specified through this document, but not limited to any one particular section.

3.6 Processing requirements.

3.6.1 Process rate. The system shall be capable of processing 500-800 gal/day for graywater and 16 gallons/day for blackwater underway. When in port the system needs to be capable of processing 100-300 gallons total black and graywater per day. Furthermore, the system shall be capable of processing for a period up to 10 days at the maximum flow rate for the target waste stream and number of ship accommodations served.

3.6.1.1 Maximum temperature and pressure. During any normal operating condition, at no point in the treatment system shall a temperature above 250°F coexist with a pressure above 15 psig.

3.6.1.2 Cold start. The system shall meet the effluent quality and hydraulic requirements specified herein, or alternate requirements for the target waste stream and discharge standard (see 6.1) within 120 hrs from beginning of system "start-up" (initialization) when the bio-mass tank is in an empty-tank condition (cold start).

3.6.1.3 Hot start. The system shall meet all effluent quality and hydraulic requirements specified herein, or alternate requirements for the target waste stream and discharge standard within 24 hrs after the system has been restarted as a "hot start" following a shutdown period of 12 continuous hours.

3.6.1.4 Chemicals in the influent. The vendor shall supply, as a subset of the list of hazardous and/or ozone depleting chemicals, a list of cleaning agents, solvents, or other shipboard chemicals along with the concentrations used under normal operations that can be tolerated by the treatment system. The vendor must supply a list of hazardous and/or ozone-depleting chemicals accompanied by their concentration amounts used in the system. Furthermore, any temporary disruption of the treatment system's normal operation caused by such chemicals shall be automatically identified and corrected under normal operating conditions

3.6.2 Effluent quality and removal.

3.6.2.1 Effluent discharge standards. When processing the target waste stream, the treatment system shall produce an effluent meeting the appropriate discharge standard(s) defined in Table II.

TABLE II. Effluent discharge Requirements

Parameter		Requirement
Biochemical Oxygen Demand (BOD_5)[1]	mg/L	= 40 (7 day Average)
Total Suspended Solids (TSS)	mg/L	= 40 (7 day Average)
Fecal Coliform (FC)	MPN^2/100 mL	= 18 (7 day Average and < 10% of any sample > 40)
PH		6-9
Oils and Greases	mg/L	=15
Total Residual Chlorine	µg/L	≤ 10

Notes:

(1) Five (5) day biochemical oxygen demand.
(2) MPN abbreviation stands for Most Probable Number.

3.6.2.2 Effluent removal. The treatment system shall deliver the treated effluent at a discharge pressure that overcomes the static head loss as seen on the CGC BLUEBELL (see 6.1) when configured for overboard discharge or shore side removal, whichever is greater. Static head losses seen by treatment system for effluent removal overboard and to a shore receiving station. The pump capacity has a minimum 41 ft head lift for discharge at low tide.

3.6.2.3 Material compatibility of effluent. The treated effluent shall be compatible, with no evidence of deleterious effect, with the ship's overboard discharge system, including 90-10 copper-nickel piping and bronze valves and fittings.

3.6.3 Waste solids management.

3.6.3.1 Waste solids holding capacity. The treatment system shall be capable of retaining all system generated waste solids for the period required by ship mission of the CGC BLUEBELL for near shore operations. The maximum time between sludge ashore discharge is 10 days. The treatment system shall be capable of meeting this requirement while operating at rated capacity and producing an effluent discharge as specified herein.

3.6.3.2 Influent pretreatment. A pre-filtration strainer may be installed with automatic backflush. The treatment system may include a filtration unit to solid matter in the influent. Solid matter may consist of such items as rags, tampons, cigarette filters, and paper. Solid matter removed from the influent is referred to as pretreatment waste. Process filtration must be capable of achieving effluent limits as identified in Table II and influent as identified in Table III at maximum flow rate. The projected influent concentration of constituents is defined in Table III.

TABLE III. Projected Concentrations of Constituents

Parameter		Requirement
Biochemical Oxygen Demand (BOD_5)[1]	mg/L	200-1400 (7 day Average)
Total Suspended Solids (TSS)	mg/L	200-800 (7 day Average)
Oils and Greases	mg/L	30-90

3.6.3.3 Waste solids removal. A treatment system producing waste solids shall be capable of delivering the waste solids at a discharge pressure that overcomes the static head loss when configured for overboard discharge or shore side removal, whichever is greatest. Static head losses seen by treatment system for waste solids removal to sea, and to a shore receiving station not to exceed 11 ft. The aerobic microbial digestion system must operate by removing biomass at a level of 98% efficiency or greater.

3.6.3.4 Tank volume. A treatment system may, but is not required to rely on existing ship's tank to meet this specification. The existing tank volume available for treatment is 700 gallons.

3.6.4 Consumables volume. The volume required to store consumable materials needed to support treatment system operation for a two-week deployment shall not exceed the reserved storage space of 106 x 66 x 72 in (LxWxH) which includes a removable 700-gallon tank of the CGC BLUEBELL. The system must be capable of disinfecting the discharge to produce effluent with Fecal Coliform concentration at or below levels listed in section 3.6.2.1.

3.6.5 Tank cleaning. The treatment system shall be capable of being flushed using treated effluent, if produced, or ship supplied seawater or freshwater to wash down all internal surfaces of the system tank vessels. The wash down water and tank residue shall be discharged from the system. Pump, piping and associated valves and fittings will not be supplied by ship for wash downs.

3.6.6 Back flow prevention. The treatment system shall have the capability of preventing back flow of wastewater, through shipboard system supply and discharge interfaces. Any treatment system using ship supplied potable water shall be equipped with a reduced pressure principle sanitary back flow preventer conforming to ASSE Standard 1013 to protect the ship's potable water from cross-contamination.

3.6.7 System evacuation. All wastewater, treated or untreated, and waste solids contained within the plumbing system and tanks shall be capable of being removed from the system at a discharge pressure that overcomes the static head loss as seen on the CGC BLUEBELL when configured for the overboard discharge or shore side removal, whichever is greatest. The static head losses seen by treatment system for effluent removal overboard and to a shore receiving station. The pump capacity has a minimum 41 ft head lift for discharge at low tide.

3.6.8 Discharged vapor/ gas.

3.6.8.1 Properties of discharged vapor/ gas. Any toxic, hazardous, flammable, explosive, or malodorous vapors produced by the treatment system shall not be vented, or allowed to escape into, any shipboard spaces. Any such vapors that are produced must be removed, diluted with air, or otherwise rendered safe before being discharged to the ship's overboard vent system or vented overboard independently.

3.6.8.2 Material compatibility of discharged vapor/ gas. Any vapor discharges from the treatment system shall be compatible, with no evidence of deleterious effect, with the ship's overboard vent system (including carbon and corrosion resisting steel pipe and fittings), as applicable.

3.6.9 Control and operation. The treatment system shall be equipped with a control system that performs the following: automatically monitors and controls operation, automatically activates alarms, automatically acquires system data, provides visual display of system data, and automatically precludes unsafe operation.

3.6.10 Operational modes. The treatment system shall provide the following modes of operation:

a. Start-up (initialization): The treatment system shall include a start up mode in which power is turned on and, at a minimum, shall automatically accomplish the following:

1. Achieve the internal operating parameters, such as temperature and pressure ranges, as recommended by the manufacturer to achieve steady state conditions needed for processing.

2. Display current and stored initialization data.

3. Prompt operator to make any required parametric changes.

4. Enter the standby mode or process mode, as determined by manufacturer.

b. Standby mode: The treatment system shall include a standby mode in which the system shall power down automatically to a minimum power consumption level and remain ready for all other modes of operation. With the possible exception of compressed air, there is no flow into or out of the system in this mode. If necessary, the system shall automatically continue certain functions as needed by the design solution such as recirculation of the wastewater to avoid settling of solids in system tanks, and

aeration to sustain the biomass. This operating mode shall allow the treatment system to stop processing if there is a problem.

c. Process mode: The treatment system shall include a process mode in which the system automatically treats the wastewater influent. In this mode, the treatment system shall, at a minimum, automatically perform the following functions: receive the wastewater influent, control feed acceptance rate, transfer wastewater within the system, control internal pressure and temperature, replenish consumables (if applicable), perform operational self-cleaning cycles (if applicable), and deliver treated effluent. All operation of system equipment (i.e., pumps, blowers and valves) shall be automatic and based on instrumentation and programmable logic controller (PLC) or equivalent control. The system will be in full unattended automatic operation during this mode.

d. Manual mode: The treatment system shall include a manual mode that overrides the automatic controls and interlocks, with exception of safety interlocks, to allow the following functions: local manual startup, operation for indefinite periods of time, manufacturers recommended maintenance including cleaning of system tanks, shutdown of the system, calibration of system sensors including sequential monitoring of all sensors during adjustments, cycling of system pumps and valves to allow operator checks, and testing of the system lamps and alarms. Manual mode system operation shall not be adversely affected by the loss of the entire automatic control system or any individual element of the control system.

e. Shutdown mode: The treatment system shall include a shutdown mode that safely returns the system to a non-powered state. The shutdown process shall be automatic and shall include all cleaning and purging actions needed to prepare the system for storage as well as subsequent startup.

3.6.10.1 Monitoring and control. The control system shall monitor and automatically adjust the appropriate subsystems to maintain system operation and performance as specified herein and prevent operation that might result in damage to the system or endanger the ship or personnel. All subsystems shall self-monitor their respective operating parameters (i.e., flow, pressure). The control system shall incorporate a programmable logic controller (PLC) or equivalent and a message display unit that provides a visible display of system status and allows operator access to all modes and conditions. The control system shall incorporate a system control switch (STARTUP, STANDBY, PROCESS, MANUAL, and SHUTDOWN) to provide control between operating modes. Emergency shut down switches shall be provided locally near the treatment system control panel, as well as remotely outside the space containing the treatment system. An elapsed-time meter shall be provided for each system pump. Emergency shutdown or automatic restart of the system shall be controlled and shall not cause a hazardous condition to the ship or personnel. The treatment system shall go into an automatic fail-safe shut down, as determined by the manufacturer, upon entering any operating condition that might result in damage to the system, or endanger the ship or personnel. The treatment system shall restart operation automatically upon power return after a power loss to the system. The treatment system shall activate audible and visual alerts and alarms as specified herein. The treatment system shall have the means for logging data on all alerts and alarms triggered by the system.

3.6.10.2 Alerts and/or alarms.

3.6.10.2.1 Audible alerts and/or alarms. The treatment system shall provide audible alerts and/or alarms that automatically sound. The control system shall have the capability for the operator to acknowledge the alarm signal and silence/mute the audible signal for silent operations. All treatment system audible alerts and/or alarms shall remain active until the alert/alarm cause is corrected. All treatment system audible alerts and/or alarms shall employ procedures to prevent inadvertent or nuisance alerts and/or alarms during transient operations (i.e., system start-up, shutdown) or from transient conditions (i.e., electrical spikes or pulses, electronic noise, ship's dynamic motion).

3.6.10.2.2 Visual alerts and/or alarms. The treatment system shall provide visual alerts and/or alarms both locally at the control panel and remotely. The control system shall have the capability for the operator to acknowledge the visual alert and/or alarm. All treatment system visual alerts and/or alarms shall remain in the viewing area until the alert/alarm cause is corrected. Visual alert and/or alarm indicators shall show what caused the

alert and/or alarm. Visual alarms shall be provided for any operating condition that might result in damage to the system, failure of the system, or endanger the ship or personnel. All visual alerts and/or alarms shall employ procedures to prevent inadvertent or nuisance alerts and/or alarms during transient operations (i.e., system start-up, shutdown) or from transient conditions (i.e., electrical spikes or pulses, electronic noise, ship's dynamic motion).

3.6.10.3 Displays. The treatment system shall display in English standard units the real time status of the system locally at the control panel and remotely. The information displayed shall include, but not be limited to, key operating parameters such as treatment status, volume of treated effluent, internal pressure, vacuums, operating hours of equipment, and system temperature.

3.6.10.4 Data acquisition and retrieval. The treatment system shall, at a minimum, monitor, save data values necessary for proper troubleshooting and allow retrieval of data by trained personnel of the status conditions and operating parameters as determined by the manufacturer. A service line shall be readily available and supplied by the vendor for troubleshooting. Data retrieval shall be available within a 6-month period.

3.6.10.5 Sensors and instruments. All sensors used in the treatment system shall be calibrated to the minimum accuracy required by the sensor manufacturer.

3.7 Shipboard interfaces.

3.7.1 Ship functional interfaces. The treatment system functional interfaces with the ship systems shall be compatible with the applicable shipboard electrical power, data, hydraulic, and pneumatic supply characteristics defined in Table VI. Grounding and bonding of the treatment system electrical and electronic subsystems and equipment, including chassis and frames of electrical equipment with conductive cases to the ship's substructure, shall meet the electrical safety and effective low-impedance radio frequency (RF) connection requirements in MIL-STD-1310.

3.7.2 Ship physical interfaces. The treatment system interfacing pipe connections shall be compatible with the mating shipboard interface connection defined in Table IV. The treatment system shall provide a means for of attachment to a steel deck. The interfacing structural mounts shall be independent from the connecting shipboard pipes. The treatment system electrical and electronic subsystems and equipment, including chassis and frames of electrical equipment with conductive cases, shall provide a means for grounding the major metallic frames or assemblies to the ship structure in accordance with MIL-STD-1310.

3.8 Hydrostatic integrity. All portions of the treatment system designed to operate under pressure shall withstand a hydrostatic test pressure of 50 psi or 150% of the system design pressure as determined by the manufacturer, whichever is greater, using clean freshwater or seawater for a period of not less than 1 hour. When pressure is applied and maintained for the specified period, there shall be no sign of leakage, material deformation or rupture, or other defects that harmfully affect the performance and serviceability of the treatment system.

3.9 Maintainability and Availability

3.9.1 Maintainability. To the maximum extent possible, system components shall require minimum planned maintenance, cleaning, and replacement while maintaining performance. Potable water and seawater may be used in offline periods of maintenance.

TABLE IV. Shipboard interfaces	
System interface	Ship interface (ship side of the interface)
Blackwater Supply	System: Vacuum Collection System Physical: connection in accordance with (IAW) MIL-STD-777, Category R, Group 4. Supply characteristics: Temperature: 36°F to 90°F
Graywater Supply	System: Graywater Collection System Physical: connection IAW MIL-STD-777, Category R, Group 3. Galvanized steel shall not be used for vents. Supply characteristics: Temperature: 36°F to 150°F
Treated Effluent Discharge	System: Overboard Discharge System Physical: connection IAW MIL-STD-777, Category R, Group 1.
Sludge and/or Screening Waste Discharge	System: Sewage Transfer System with Pier Connection Physical: connection IAW MIL-STD-777, Category R, Group 4.
System Drain	System: Sewage Transfer System with Pier Connection Physical: connection IAW MIL-STD-777, Category R, Group 4.
Tank Vent	System: Overboard Vent System Physical: connection IAW MIL-STD-777, Category Y, Group 3. Galvanized steel shall not be used for vents.
Off-gas Vent	System: Overboard Vent System Physical: connection IAW MIL-STD-777, Category Y, Group 3. Galvanized steel shall not be used for vents.
Potable Water Supply (if used)	System: Potable Water System (if used will require pump, piping, valves, etc.) Physical: connection IAW MIL-STD-777, Category C, Group 2. Supply characteristics: Pressure: 60 psig Flow rate: 10 gpm Temperature: 70 °F Bromine or chlorine residual: 0.2 mg/L
Compressed Air Supply (if used)	System: Compressed Air Service System Physical: connection IAW MIL-STD-777, Category J, Group 4. Supply characteristics: Pressure: 125 psig Wet bulb temperature: 81°F (assuming space temp. is 90°F max) Hydrocarbon Contaminant: Max. 50 ppm by weight Particulate Contaminant: Max. 5 micron

Seawater Supply (if used)	System: Sea Water Service System (if used will require pump, piping, valves, etc.) Physical: connection IAW MIL-STD-777, Category D, Group 1. Supply characteristics: Pressure: 100 to 175 psig Flow rate: 100 to 200 gpm Temperature: 28°F to 85°F
Electrical Power Supply	System: Electrical Power Distribution System Physical: Conductor identification of control and signal cables IAW IEEE 45. Supply characteristics: 208Y/120 Vac, 60 Hz, 3 phase, ungrounded, not to exceed 5 kw.

3.9.2 Accessibility. When installed on the CGC BLUEBELL (see 6.1), the treatment system shall be constructed and arranged so that all major system assemblies, attachments, and non-hull integrated retention tanks are accessible for maintenance, repair, and replacement without requiring the removal of other major assemblies and temporary attachments. The maintenance access for system tanks shall be located near the top of the tank with an external access ladder provided where required. For systems where filter membranes, electrodes, or other components that must be routinely replaced, access shall be provided without the need to remove system components other than an access door or hatch.

3.9.3 Sampling ports. The treatment system shall allow manual sampling of the treatment system influent, treated effluent, sludge and vapors produced by the treatment system.

3.9.4 Redundant Pumps. The treatment system shall incorporate 100 percent redundancy for all pumps that are critical to meet system performance as specified herein. The vendor must supply a separate pump for capacity supply water.

3.10. Safety. The treatment system shall not present any uncontrolled safety or health hazards to operating or maintenance personnel while the system is secured or during operation. The treatment system shall safely transfer and hold all malodors, gases, smoke and toxic substances including collected wastewater, without risk of contamination or exposure to operating or maintenance personnel. Any fluid transfer subsystem shall prevent splatter, spillage, or other loss of liquids from any system component during operation or when secured.

3.11 Identification marking. All treatment system parts shall have permanently affixed and legible markings identifying the manufacturer's name, model and serial number, and inspection lot identification. In addition, electrical enclosures shall include permanently affixed and legible markings identifying the voltage, frequency, and maximum horse power rating, and low noise, if applicable. All system piping shall be identified for its specific service (i.e., potable water), pressure and direction.

3.12 Human factors. All man-to-machine interfaces, such as controls, displays, alerts and alarms, labeling, environment and accessibility, shall be suitable for user personnel with fifth through ninety-fifth percentile anthropometrical data as defined in ASTM F 1166.

3.13 Deliverables. The vendor shall supply the unit and spares necessary for one year of continuous operation. Vendor shall also provide a technical manual including operational,

troubleshooting, and maintenance instructions in standard commercial format. Vendor shall also deliver system drawings, a training proposal and a list of prohibited chemicals for the system.

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government

The Acceptance Plan (Attachment I) will be used in the process of acceptance.

CLAUSES INCORPORATED BY REFERENCE

52.246-2	Inspection Of Supplies--Fixed Price	AUG 1996
52.246-16	Responsibility For Supplies	APR 1984
252.246-7000	Material Inspection And Receiving Report	MAR 2003

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS
0001	120 day ADC	1	USCG Blue Bell 6767 N. Basin Ave. Portland, OR 97217

CLAUSES INCORPORATED BY REFERENCE

52.242-15	Stop-Work Order	AUG 1989
52.242-17	Government Delay Of Work	APR 1984
52.247-34	F.O.B. Destination	NOV 1991

CLAUSES INCORPORATED BY FULL TEXT

52.211-9 DESIRED AND REQUIRED TIME OF DELIVERY (JUN 1997)

(a) The Government desires delivery to be made according to the following schedule:

120 day after date of contract award

Government's required delivery schedule to be determined at time of award

OFFEROR'S PROPOSED DELIVERY SCHEDULE

WITHIN _____ DAYS AFTER DATE OF CONTRACT

_____

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____

(b) Attention is directed to the Contract Award provision of the solicitation that provides that a written award or acceptance of offer mailed or otherwise furnished to the successful offeror results in a binding contract. The

Government will mail or otherwise furnish to the offeror an award or notice of award not later than the day the award is dated. Therefore, the offeror shall compute the time available for performance beginning with the actual date of award, rather than the date the written notice of award is received from the Contracting Officer through the ordinary mails. However, the Government will evaluate an offer that proposes delivery based on the Contractor's date of receipt of the contract or notice of award by adding (1) five calendar days for delivery of the award through the ordinary mails, or (2) one working day if the solicitation states that the contract or notice of award will be transmitted electronically. (The term "working day" excludes weekends and U.S. Federal holidays.) If, as so computed, the offered delivery date is later than the required delivery date, the offer will be considered nonresponsive and rejected.

(End of clause)

Section G - Contract Administration Data

CLAUSES INCORPORATED BY FULL TEXT

CAR-G09 PAYMENT INSTRUCTIONS FOR MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (OCT 2005)

The payment office will make payment in sequential ACRN order within the contract, exhausting all funds in the previous ACRN before paying from the next ACRN using the following sequential order: alpha/alpha; alpha/numeric; numeric/alpha; and numeric/numeric.

(End of Clause)

CAR-G10 ELECTRONIC SUBMISSION OF PAYMENT REQUESTS (FEB 2006) (NSWCCD)

This clause applies to the extent the clause at DFARS 252.232-7003, "Electronic Submission of Payment Requests" appears elsewhere in this contract. This clause provides supplemental information with respect to the electronic submission of payment requests under DFARS 252.232-7003.

The Defense Finance and Accounting Service (DFAS) has limited electronic processing of contractor payment requests to the Wide Area WorkFlow Receipt and Acceptance (WAWF-RA) form identified in the clause at DFARS 252.232-7003. However, an interface between the Naval Surface Warfare Center, Carderock Division (NSWCCD) financial system and WAWF-RA is not available. As a result, NSWCCD cannot process invoices submitted by the contractor for payment via the WAWF-RA. NSWCCD is currently working with the WAWF-RA program office to develop an interface between the NSWCCD financial system and WAWF-RA.

Unless the contractor and the contracting officer agree to an alternate method, the contractor shall submit payment requests, using other than an electronic form, in accordance with the applicable payment clauses of this contract.

The contractor agrees to comply with the clause at DFARS 252.232-7003 when notified by the contracting officer that the interface between the NSWCCD financial system and WAWF-RA is available and capable of processing invoices submitted electronically by the contractor for payment.

(End of Clause)

Section H - Special Contract Requirements

CLAUSES INCORPORATED BY FULL TEXT

CAR-H06 PAST PERFORMANCE ASSESSMENT FOR CONTRACTS NOT SUBJECT TO THE NAVY CONTRACTOR PERFORMANCE ASSESSMENT REPORTING SYSTEM (CPARS) (OCT 2003)

(a) The contractor, in performing this contract, will be subject to a written past performance assessment by the Government. All information contained in this assessment may be used by the Government, within the limitations of Federal Acquisition Regulation (FAR) 42.15, for future source selection in accordance with FAR 15.304 when past performance is an evaluation factor for award. The assessment will be prepared by Government technical/requirements personnel and made available for review by the Contractor.

(b) The Contracting Officer will provide the written assessment on contractor performance to the Contractor within 60 calendar days of contract completion. In addition, when the period of performance of the contract exceeds one year, the Contracting Officer will provide a written assessment to the Contractor within 60 calendar days after the end of each one-year period. At the sole discretion of the Contracting Officer, an annual assessment may be delayed until completion of the contract in those circumstances where such completion will be within 90 days after the end of the one-year period. The Government's written assessment will be in a format determined by the Contracting Officer and will address, as appropriate, the Contractor's performance in terms of cost effectiveness, quality, and timeliness. For delivery order contracts or task order contracts, performance assessments will include performance on all delivery/task orders during the reporting period. Final reports upon completion of a contract will not include cumulative information, but will be limited to the period of performance occurring after the preceding performance report.

(c) The Contractor will be provided an opportunity to review the assessment and may respond to the Contracting Officer by providing comments, rebutting statements or furnishing additional relevant information. The Contractor's response must be provided to the Contracting Officer within 30 calendar days after the assessment is mailed or otherwise provided to the Contractor by the Government. Upon receipt of the Contractor's input, if any, or after the end of the 30 calendar day period, whichever occurs first, the assessment will be finalized by the Contracting Officer. The Contracting Officer will have the option of accepting or modifying the original assessment and once finalized, will provide the final assessment to the Contractor. The assessment is not subject to the Disputes clause of the contract, nor is it subject to appeal beyond that described in paragraph (d) of this clause.

(d) The Chief of the Contracting Office, Naval Surface Warfare Center, Carderock Division shall resolve disagreements between the Contracting Officer and the Contractor regarding the assessment.

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Go vernment	JUL 1995
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	SEP 2005
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	JAN 2005
52.211-5	Material Requirements	AUG 2000
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-14	Integrity of Unit Prices	OCT 1997
52.219-8	Utilization of Small Business Concerns	MAY 2004
52.219-9	Small Business Subcontracting Plan	JUL 2005
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	JUL 2005
52.222-19	Child Labor -- Cooperation with Authorities and Remedies	JAN 2006
52.222-20	Walsh-Healey Public Contracts Act	DEC 1996
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	APR 2002
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	DEC 2001
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	DEC 2001
52.223-5	Pollution Prevention and Right-to-Know Information	AUG 2003
52.223-6	Drug-Free Workplace	MAY 2001
52.225-13	Restrictions on Certain Foreign Purchases	FEB 2006
52.227-1	Authorization and Consent	JUL 1995
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	AUG 1996
52.228-5	Insurance - Work On A Government Installation	JAN 1997
52.229-3	Federal, State And Local Taxes	APR 2003
52.232-1	Payments	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	OCT 2003
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996

52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.237-2	Protection Of Government Buildings, Equipment, And Vegetation	APR 1984
52.242-13	Bankruptcy	JUL 1995
52.243-1	Changes--Fixed Price	AUG 1987
52.244-6	Subcontracts for Commercial Items	FEB 2006
52.246-23	Limitation Of Liability	FEB 1997
52.247-68	Report of Shipment (REPSHIP)	FEB 2006
52.249-2	Termination For Convenience Of The Government (Fixed-Price)	MAY 2004
52.249-8	Default (Fixed-Price Supply & Service)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2004
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	NOV 2003
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	MAR 1998
252.211-7003	Item Identification and Valuation	JUN 2005
252.219-7003	Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DOD Contracts)	APR 1996
252.223-7006	Prohibition On Storage And Disposal Of Toxic And Hazardous Materials	APR 1993
252.225-7002	Qualifying Country Sources As Subcontractors	APR 2003
252.225-7012	Preference For Certain Domestic Commodities	JUN 2004
252.225-7014	Preference For Domestic Specialty Metals	JUN 2005
252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.232-7003	Electronic Submission of Payment Requests	JAN 2004
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.244-7000	Subcontracts for Commercial Items and Commercial Components (DoD Contracts)	NOV 2005
252.247-7023	Transportation of Supplies by Sea	MAY 2002

CLAUSES INCORPORATED BY FULL TEXT

52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JUL 2005)

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except--

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference; and

(ii) Otherwise successful offers from small business concerns.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

___ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

52.222-39 NOTIFICATION OF EMPLOYEE RIGHTS CONCERNING PAYMENT OF UNION DUES OR FEES (DEC 2004)

(a) Definition. As used in this clause--

United States means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) Except as provided in paragraph (e) of this clause, during the term of this contract, the Contractor shall post a notice, in the form of a poster, informing employees of their rights concerning union membership and payment of

union dues and fees, in conspicuous places in and about all its plants and offices, including all places where notices to employees are customarily posted. The notice shall include the following information (except that the information pertaining to National Labor Relations Board shall not be included in notices posted in the plants or offices of carriers subject to the Railway Labor Act, as amended (45 U.S.C. 151-188)).

Notice to Employees

Under Federal law, employees cannot be required to join a union or maintain membership in a union in order to retain their jobs. Under certain conditions, the law permits a union and an employer to enter into a union-security agreement requiring employees to pay uniform periodic dues and initiation fees. However, employees who are not union members can object to the use of their payments for certain purposes and can only be required to pay their share of union costs relating to collective bargaining, contract administration, and grievance adjustment.

If you do not want to pay that portion of dues or fees used to support activities not related to collective bargaining, contract administration, or grievance adjustment, you are entitled to an appropriate reduction in your payment. If you believe that you have been required to pay dues or fees used in part to support activities not related to collective bargaining, contract administration, or grievance adjustment, you may be entitled to a refund and to an appropriate reduction in future payments.

For further information concerning your rights, you may wish to contact the National Labor Relations Board (NLRB) either at one of its Regional offices or at the following address or toll free number:

National Labor Relations Board
Division of Information
1099 14th Street, N.W.
Washington, DC 20570
1-866-667-6572
1-866-316-6572 (TTY)

To locate the nearest NLRB office, see NLRB's website at http://www.nlrb.gov.

(c) The Contractor shall comply with all provisions of Executive Order 13201 of February 17, 2001, and related implementing regulations at 29 CFR part 470, and orders of the Secretary of Labor.

(d) In the event that the Contractor does not comply with any of the requirements set forth in paragraphs (b), (c), or (g), the Secretary may direct that this contract be cancelled, terminated, or suspended in whole or in part, and declare the Contractor ineligible for further Government contracts in accordance with procedures at 29 CFR part 470, Subpart B--Compliance Evaluations, Complaint Investigations and Enforcement Procedures. Such other sanctions or remedies may be imposed as are provided by 29 CFR part 470, which implements Executive Order 13201, or as are otherwise provided by law.

(e) The requirement to post the employee notice in paragraph (b) does not apply to--

(1) Contractors and subcontractors that employ fewer than 15 persons;

(2) Contractor establishments or construction work sites where no union has been formally recognized by the Contractor or certified as the exclusive bargaining representative of the Contractor's employees;

(3) Contractor establishments or construction work sites located in a jurisdiction named in the definition of the United States in which the law of that jurisdiction forbids enforcement of union-security agreements;

(4) Contractor facilities where upon the written request of the Contractor, the Department of Labor Deputy Assistant Secretary for Labor-Management Programs has waived the posting requirements with respect to any of the Contractor's facilities if the Deputy Assistant Secretary finds that the Contractor has demonstrated that--

(i) The facility is in all respects separate and distinct from activities of the Contractor related to the performance of a contract; and

(ii) Such a waiver will not interfere with or impede the effectuation of the Executive order; or

(5) Work outside the United States that does not involve the recruitment or employment of workers within the United States.

(f) The Department of Labor publishes the official employee notice in two variations; one for contractors covered by the Railway Labor Act and a second for all other contractors. The Contractor shall--

(1) Obtain the required employee notice poster from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW, Room N-5605, Washington, DC 20210, or from any field office of the Department's Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Download a copy of the poster from the Office of Labor-Management Standards website at http://www.olms.dol.gov; or

(3) Reproduce and use exact duplicate copies of the Department of Labor's official poster.

(g) The Contractor shall include the substance of this clause in every subcontract or purchase order that exceeds the simplified acquisition threshold, entered into in connection with this contract, unless exempted by the Department of Labor Deputy Assistant Secretary for Labor-Management Programs on account of special circumstances in the national interest under authority of 29 CFR 470.3(c). For indefinite quantity subcontracts, the Contractor shall include the substance of this clause if the value of orders in any calendar year of the subcontract is expected to exceed the simplified acquisition threshold. Pursuant to 29 CFR part 470, Subpart B--Compliance Evaluations, Complaint Investigations and Enforcement Procedures, the Secretary of Labor may direct the Contractor to take such action in the enforcement of these regulations, including the imposition of sanctions for noncompliance with respect to any such subcontract or purchase order. If the Contractor becomes involved in litigation with a subcontractor or vendor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

(End of clause)

52.248-1 VALUE ENGINEERING (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VECP's, in accordance with the incentive sharing rates in paragraph (f) below.

(b) Definitions. "Acquisition savings," as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include--

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the Contractor's allowable development and implementation costs;

(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and

(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units in the sharing base. On an instant contract, future contract savings include savings on increases in quantities after VECP acceptance that are due to contract modifications, exercise of options, additional orders, and funding of subsequent year requirements on a multiyear contract.

"Collateral costs," as used in this clause, means agency cost of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contracting office" includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary for projected learning or changes in quantity during the sharing period. It is calculated at the time the VECP is accepted and applies either (1) throughout the sharing period, unless the Contracting Officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or (2) to the calculation of a lump-sum payment, which cannot later be revised.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP or any increase in this contract's cost or price resulting from negative instant contract savings.

"Instant contract," as used in this clause, means this contract, under which the VECP is submitted. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, or additional orders. If this is a multiyear contract, the term does not include quantities funded after VECP acceptance. If this contract is a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any Contractor's development or implementation costs) resulting from using the VECP on this, the instant contract. If this is a service contract, the instant unit cost reduction is normally equal to the number of hours per line-item task saved by using the VECP on this contract, multiplied by the appropriate contract labor rate.

"Negative instant contract savings" means the increase in the cost or price of this contract when the acceptance of a VECP results in an excess of the Contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings, less Government costs.

"Sharing base," as used in this clause, means the number of affected end items on contracts of the contracting office accepting the VECP.

Sharing period, as used in this clause, means the period beginning with acceptance of the first unit incorporating the VECP and ending at a calendar date or event determined by the contracting officer for each VECP.

"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VECP applies.

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only;

(ii) In research and development (R&D) end items or R&D test quantities that is due solely to results of previous testing under this contract; or

(iii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (8) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and the proposed requirement, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, the effect of the change on the end item's performance, and any pertinent objective test data.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) Identification of the unit to which the VECP applies.

(4) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under the Subcontracts paragraph of this clause, below.

(5) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(6) A prediction of any effects the proposed change would have on collateral costs to the agency.

(7) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(8) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Contracting Officer, unless this contract states otherwise. If this contract is administered by other than the contracting office, the Contractor shall submit a copy of the VECP simultaneously to the Contracting Officer and to the Administrative Contracting Officer.

(e) Government action. (1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing rates. If a VECP is accepted, the Contractor shall share in net acquisition savings according to the percentages shown in the table below. The percentage paid the Contractor depends upon (1) this contract's type (fixed-price, incentive, or cost-reimbursement), (2) the sharing arrangement specified in paragraph (a) above (incentive, program requirement, or a combination as delineated in the Schedule), and (3) the source of the savings (the instant contract, or concurrent and future contracts), as follows:

CONTRACTOR'S SHARE OF NET ACQUISITION SAVINGS

(Figures in percent)

Contract Type	Incentive (Voluntary)		Program Requirement (Mandatory)	
	Instant Contract Rate	Concurrent and Future Contract Rate	Instant Contract Rate	Concurrent and Future Contract Rate
Fixed-price (includes fixed-price-award-fee; excludes other fixed-price incentive contracts)	(1) 50	(1) 50	(1) 25	25
Incentive (fixed-price or cost) (other than award fee)	(2)	(1) 50	(2)	25
Cost-reimbursement (includes cost-	(3) 25	(3) 25	15	15

plus-award-fee; excludes other cost-type incentive Contracts)				

(1) The Contracting Officer may increase the Contractor's sharing rate to as high as 75 percent for each VECP.
(2) Same sharing arrangement as the contract's profit or fee adjustment formula.
(3) The Contracting Officer may increase the Contractor's sharing rate to as high as 50 percent for each VECP.

(g) Calculating net acquisition savings.

(1) Acquisition savings are realized when (i) the cost or price is reduced on the instant contract, (ii) reductions are negotiated in concurrent contracts, (iii) future contracts are awarded, or (iv) agreement is reached on a lump-sum payment for future contract savings (see subparagraph (i)(4) below). Net acquisition savings are first realized, and the Contractor shall be paid a share, when Government costs and any negative instant contract savings have been fully offset against acquisition savings.

(2) Except in incentive contracts, Government costs and any price or cost increases resulting from negative instant contract savings shall be offset against acquisition savings each time such savings are realized until they are fully offset. Then, the Contractor's share is calculated by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see paragraph (f) above). Additional Contractor shares of net acquisition savings shall be paid to the Contractor at the time realized.

(3) If this is an incentive contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor shall share through the contract incentive structure in savings on the instant contract items affected. Any negative instant contract savings shall be added to the target cost or to the target price and ceiling price, and the amount shall be offset against concurrent and future contract savings.

(4) If the Government does not receive and accept all items on which it paid the Contractor's share, the Contractor shall reimburse the Government for the proportionate share of these payments.

(h) Contract adjustment. The modification accepting the VECP (or a subsequent modification issued as soon as possible after any negotiations are completed) shall--

(1) Reduce the contract price or estimated cost by the amount of instant contract savings, unless this is an incentive contract;

(2) When the amount of instant contract savings is negative, increase the contract price, target price and ceiling price, target cost, or estimated cost by that amount;

(3) Specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment;

(4) Specify the amount of any Government costs or negative instant contract savings to be offset in determining net acquisition savings realized from concurrent or future contract savings; and

(5) Provide the Contractor's share of any net acquisition savings under the instant contract in accordance with the following:

(i) Fixed-price contracts--add to contract price.

(ii) Cost-reimbursement contracts--add to contract fee.

(i) Concurrent and future contract savings.

(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract. The Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.

(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by (i) subtracting from the reduction in price negotiated on the concurrent contract any Government costs or negative instant contract savings not yet offset and (ii) multiplying the result by the Contractor's sharing rate.

(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by (i) multiplying the future unit cost reduction by the number of future contract units scheduled for delivery during the sharing period, (ii) subtracting any Government costs or negative instant contract savings not yet offset, and (iii) multiplying the result by the Contractor's sharing rate.

(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-4 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

(j) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount, as specified in paragraph (h)(5) of this clause, by a rate from 20 to 100 percent, as determined by the Contracting Officer, of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price, target price, target cost, or estimated cost, at the time the VECP is accepted, or $100,000, whichever is greater. The Contracting Officer will be the sole determiner of the amount of collateral savings.

(k) Relationship to other incentives. Only those benefits of an accepted VECP not rewardable under performance, design-to-cost (production unit cost, operating and support costs, reliability and maintainability), or similar incentives shall be rewarded under this clause. However, the targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement better than target.

(l) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $100,000 or more and may include one in subcontracts of lesser value. In calculating any adjustment in this contract's price for instant contract savings (or negative instant contract savings), the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs, and any value engineering incentive payments to a subcontractor, clearly resulting from a VECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value engineering incentive

payments; provided, that the payments shall not reduce the Government's share of concurrent or future contract savings or collateral savings.

(m) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering clause of contract . . . . . , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations."

If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these addresses:

http://www.arnet.gov/far

http://farsite.hill.af.mil/VFAR1.htm

(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)

The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(End of clause)

CAR-I10 AUTHORIZED CHANGES ONLY BY THE CONTRACTING OFFICER (JUN 1996) (NSWCCD)

(a) Except as specified in paragraph (b) below, no order, statement, or conduct of Government personnel who visit the Contractor's facilities or in any other manner communicates with Contractor personnel during the performance of this contract shall constitute a change under the "Changes" clause of this contract.

(b) The Contractor shall not comply with any order, direction or request of Government personnel unless it is issued in writing and signed by the Contracting Officer, or is pursuant to specific authority otherwise included as a part of this contract.

(c) The Contracting Officer is the only person authorized to approve changes in any of the requirements of this contract and notwithstanding provisions contained elsewhere in this contract, the said authority remains solely the Contracting Officer's. In the event the contractor effects any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority and no adjustment will be made in the contract price to cover any increase in charges incurred as a result thereof. The address and telephone number of the Contracting Officer is:

TO BE DESIGNATED AT TIME OF AWARD

CAR-I13 STANDARD COMMERCIAL WARRANTY (JAN 1992)

The contractor shall extend to the Government the full coverage of any standard commercial warranty normally offered in a similar commercial sale, provided such warranty is available at no additional cost to the Government. Acceptance of the standard commercial warranty does not waive the Government's rights under the "Inspection" clause nor does it limit the Government's rights with regard to the other terms and conditions of this contract. In the event of a conflict, the terms and conditions of the contract shall take precedence over the standard commercial warranty. The standard commercial warranty period shall begin upon final acceptance of the applicable material and/or services listed in the Schedule.

The contractor shall provide a copy of its standard commercial warranty (if applicable) with its offer. The warranty covers a period of ___ months. (Offeror is to insert number.)

Section J - List of Documents, Exhibits and Other Attachments

ATTACHMENT LIST

Attachment I - Acceptance Plan

Section K - Representations, Certifications and Other Statements of Offerors

CLAUSES INCORPORATED BY REFERENCE

52.203-11	Certification And Disclosure Regarding Payments To Influence Certain Federal Transactions	SEP 2005
52.222-38	Compliance With Veterans' Employment Reporting Requirements	DEC 2001
52.230-7	Proposal Disclosure--Cost Accounting Practice change	APR 2005
252.209-7001	Disclosure of Ownership or Control by the Government of a Terrorist Country	SEP 2004
252.225-7031	Secondary Arab Boycott Of Israel	JUN 2005

CLAUSES INCORPORATED BY FULL TEXT

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –

(i) Those prices,

(ii) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provison _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

Common parent, as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis , and of which the offeror is a member.

Taxpayer Identification Number (TIN), as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN:.----------

___ TIN has been applied for.

___ TIN is not required because:

___ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

___ Offeror is an agency or instrumentality of a foreign government;

___ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

___ Sole proprietorship;

___ Partnership;

___ Corporate entity (not tax-exempt);

___ Corporate entity (tax-exempt);

___ Government entity (Federal, State, or local);

___ Foreign government;

___ International organization per 26 CFR 1.6049-4;

___ Other----------

(f) Common parent.

___ Offeror is not owned or controlled by a commo n parent as defined in paragraph (a) of this provision.

___ Name and TIN of common parent:

Name----------

TIN----------

(End of provision)

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (JAN 2006)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 221310.

(2) The small business size standard is $6M.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b)(1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (c) of this provision applies.

(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (b) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

(__) Paragraph (c) applies.

(__) Paragraph (c) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at http://orca.bpn.gov. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications

currently posted electronically have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [offeror to insert changes, identifying change by clause number, title, date]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change
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Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.

(End of Provision)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that-

(i) The Offeror and/or any of its Principals -

(A) Are ( ) are not ( ) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have ( ) have not ( ), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror has ( ) has not ( ), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

52.215-6 PLACE OF PERFORMANCE (OCT 1997)

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, ( ) intends, ( ) does not intend (check applicable block) to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks “intends” in paragraph (a) of this provision, it shall insert in the following spaces the required information:

Place of Performance(Street Address, City, State, County, Zip Code)

Name and Address of Owner and Operator of the Plant or Facility if Other Than Offeror or Respondent

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2004)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 221310 (insert NAICS code).

(2) The small business size standard is $6M .

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:_____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) That is at least 51 percent owned by one or more women; in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.222-25 AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that

(a) [ ] it has developed and has on file, [ ] has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or

(b) [ ] has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)

52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)

(a) Executive Order 13148, of April 21, 2000, Greening the Government through Leadership in Environmental Management, requires submission of this certification as a prerequisite for contract award.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C.

13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

( ) (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

( ) (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

( ) (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

( ) (iv) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(A) Major group code 10 (except 1011, 1081, and 1094.

(B) Major group code 12 (except 1241).

(C) Major group codes 20 through 39.

(D) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(E) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

( ) (v) The facility is not located within the United States or its outlying areas.

(End of clause)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the

Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

CAR-K01 ELECTRONIC DISTRIBUTION OF CONTRACT DOCUMENTS (APR 2006)

(a) The DoD Electronic Document Access (EDA) provides World Wide Web access to documents used to support the procurement, contract administration, bill paying, and accounting processes. EDA is being used by the Naval Surface Warfare Center, Carderock Division to electronically distribute all contract award and contract modification documents, including task and delivery orders. The contractor will be sent a notification email when a contractual document has been uploaded for distribution. The contractor will be required to register as a vendor on the EDA web site (http://eda.ogden.disa.mil) in order to view/download their company's contractual documents. The files posted are in .pdf format and may be accessed using Adobe Acrobat Reader. Adobe Acrobat Reader is a free software that may be downloaded at http://www.adobe.com/products/acrobat/readstep.html.

(b) Offerors must provide the following information that will be used to make electronic distribution for any resultant contract.

Name of Point of Contact_____

Phone Number for Point of Contact _____

E-mail Address for Receipt of Electronic Distribution _____

Section L - Instructions, Conditions and Notices to Bidders

CLAUSES INCORPORATED BY REFERENCE

52.215-1 Instructions to Offerors--Competitive Acquisition JAN 2004

CLAUSES INCORPORATED BY FULL TEXT

52.211-2 AVAILABILITY OF SPECIFICATIONS, STANDARDS, AND DATA ITEM DESCRIPTIONS LISTED IN THE ACQUISITION STREAMLINING AND STANDARDIZATION INFORMATION SYSTEM (ASSIST) (JAN 2006)

(a) Most unclassified Defense specifications and standards may be downloaded from the following ASSIST websites:

(1) ASSIST (http://assist.daps.dla.mil);

(2) Quick Search (http://assist.daps.dla.mil/quicksearch);

(3) ASSISTdocs.com (http://assistdocs.com).

(b) Documents not available from ASSIST may be ordered from the Department of Defense Single Stock Point (DoDSSP) by--

(1) Using the ASSIST Shopping Wizard (http://assist.daps.dla.mil/wizard);

(2) Phoning the DoDSSP Customer Service Desk (215) 697-2179, Mon-Fri, 0730 to 1600 EST; or

(3) Ordering from DoDSSP, Building 4, Section D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Telephone (215) 697-2667/2179, Facsimile (215) 697-1462.

(End of provision)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a firm fixed price contract resulting from this solicitation.

(End of clause)

52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

Regina M. Shuster, Code 3351
Naval Surface Warfare Center – SSES

5001 S. Broad Street
Philadelphia, PA 19112-1403

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

http://www.arnet.gov/far
http://farsite.hill.af.mil/VAF1.htm

(End of provision

52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS (APR 1984)

The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of"(DEVIATION)" after the date of the provision.

(End of provision)

PROPOSAL EVALUATIONS
CAR-L11 PROPOSAL PREPARATION REQUIREMENT (JUL 2002) (NSWCCD)

It is requested that offerors prepare their proposals in accordance with the following organization, content and format requirements to assist the government in making a complete and thorough evaluation of all proposals. Proposals shall be submitted as two separate documents, as follows:

Documents	Original	Copies
Solicitation, Offer and Award Document (SF-33)	1	2
Technical Proposal	1	5

The “originals” shall be clearly identified as the “ORIGINAL”, and bear the original signature(s) of the offeror. The “copies” shall be complete and clearly identified as “COPY” or “DUPLICATE”.

(1) SOLICITATION, OFFER AND AWARD DOCUMENTS (SF-33 RFP)

This document, which may be used as part of the contract award document, shall be fully executed and returned as a separate document from the technical and cost proposals. Special attention should be taken to accurately enter the

prices required in Section B, complete all Representations and Certifications in Section K and ensure that an authorized person signs the offer in Block 17 of Page 1.

The document SHALL NOT be embellished with any cover or binding. If the offeror makes any qualifications to any provisions in the RFP, all such qualifications shall be listed in a cover letter to the proposal. Qualifications may also be annotated on the Solicitation, Offer and Award document, if such annotation is necessary to clarify the qualifications.

(2) TECHNICAL PROPOSAL

The technical proposal must include the following information:

(A) Technical Design/Capabilities of Proposed System. The offeror must propose a fully automatic, self-contained blackwater and graywater processing system meeting the requirements set forth in the Acquisition Specification included as Section C of this solicitation. The offeror must provide information on the technical design and capabilities of the proposed system, with specific, detailed information and technical data sufficient to enable the Government to make a thorough evaluation and arrive at a sound determination as to whether or not the proposed system meets the Acquisition Specification in every respect. The following additional information must be provided about the proposed system: (1) statistical data indicating that the system can achieve the effluent discharge requirements set forth in table II included in Section 3.6.2.1 of the Acquisition Specification; (2) independent lab confirmation demonstrating that the system can achieve the projected influent concentration of constituents defined in Table III included in Section 3.6.3.2 of the Acquisition Specification; (3) engineering analysis documenting: (a) the system's ability to clean the tank in accordance with Section 3.6.5 of the Acquisition Specification; (b) the system's ability to store solids as required by Section 3.6.3.1 of the Acquisition Specification; and (c) substantiating the rationale for selecting operating parameters; (4) a list of hazardous and/or ozone-depleting chemicals used by the system, accompanied by the concentration amounts of such substances; and (5) overall system dimensions and dimensions of system parts and consumables requiring replacement per manufacturers' maintenance schedules.

(B) Life Cycle Maintenance Information. The offeror should provide its estimate of maintenance costs, including all costs associated with maintenance, for 15 years of operation assuming operation of 2500 hours per year. The offeror should include a schedule of required maintenance with scheduled overhaul timelines for the projected service life of the system. Scheduled maintenance should include preventative/scheduled maintenance required to ensure that the system operates satisfactorily. The frequency and duration of such maintenance shall be clearly defined. Data including mean time between failures or field parts repair rates, meantime to repair, mean time to restart after maintenance, and mean time for scheduled maintenance shall be provided. An overhaul schedule shall also be provided. The schedule should be based on operating hours and shall include an estimate of the labor hours required and material and other costs associated with the overhaul/replacement. If the overhaul can be accomplished using ship force labor, the level of ship force expertise needed shall also be identified. Lists of parts required for anticipated maintenance actions should be provided.

(C) Corporate Experience/Capabilities. The offeror should provide a brief narrative addressing the following corporate experience/capabilities:

> (1)Experience/Capability to Provide Treatment Systems - The offeror shall describe its experience in providing systems similar to the system required under this solicitation. The offeror shall provide information on the number of identical/similar systems the offeror has provided for use by Federal agencies and for use in commercial applications.
>
> (2) Logistics Support –The offeror shall describe its ability to sustain, repair and replace parts. Mean delivery time on spare and replacement parts should be provided. Locations of parts available for purchase (i.e. stocking dealers) shall be identified in the U.S. and abroad. Commonality with commercial application shall be identified. Describe the degree to which the proposed system shares components with similar systems in commercial applications.

(3) Training Support – The offeror shall describe its ability to provide fleet training with respect to the system. Facilities and personnel at both corporate and dealership/distributorship levels shall be identified. Average years of instructor experience shall be identified. Quantity of sailors per year that can be trained (throughput) shall be identified.

(D) Past Performance. Past performance information will be used to evaluate the offeror's conduct under contracts under which an offeror is currently working or has completed within the past three years. It may include the offeror's record of (1) conforming to specifications and standards of good workmanship; (2) administrative aspects of performance; (3) history for reasonable and cooperative behavior, and (4) commitment to customer satisfaction and business-like concern for interests of the customer.

Each offeror has the opportunity to provide information on up to five contracts on which it is currently working or which have been completed within the past three years by providing the following information for each such contract:

1. Contract Number
2. Customer/Agency
3. Contracting Officer and Technical Point of Contact (names and current phone numbers and/or e-mail addresses)
4. Brief Description of Scope of Work
5. Contract Type
6. Award Price

In evaluating past performance, the Government is not limited to the information provided by the offeror and may obtain information from other sources, such as the CPARS system or other records. In addition, the Government reserves the right to verify all information supplied by the offeror concerning its past performance. Offerors shall receive credit for good past performance and lose credit for poor past performance. Offerors lacking past performance will receive a neutral rating for past performance.

Section M - Evaluation Factors for Award

EVALUATION FACTORS FOR AWARD

The Government will award a contract resulting from this solicitation to the offeror whose offer conforming to the solicitation will be most advantageous to the Government, price and other factors considered. The following at the significant evaluation factors, and subfactors, other than price, that will be used to evaluate offers, listed in descending order of importance:

(b) Technical Design/Capabilities of Proposed System
(c) Corporate Experience/Capabilities
    a. Experience/Capability to Provide Treatment Systems
    b. Logistics Support
    c. Training Support
(d) Past Performance

Price will also be significant evaluation factor, but evaluation factors other than price, when combined, are significantly more important than price.

ATTACHMENT I
INSPECTION AND ACCEPTANCE

1. Acceptance inspection. Acceptance inspection shall be performed as specified herein. The inspection shall consist of the examinations, analyses and tests listed in Table I (attached), and as further described below.

2. Examination. The treatment system shall first be examined for compliance with the below requirements. This element of inspection shall encompass all visual examinations of static test item to determine that physical requirements have been met. Tools (e.g., measurement devices and scales) may be used to assist this process. Noncompliance with any specified requirements or presence of one or more defects shall constitute cause for rejection.

2.1. Overall Size. Physical size of the system must fit within existing compartment space, which consists of 106 x 66 x 72 in (LxWxH) and includes a removable 700-gallon tank can be used for treatment system. Tank volume restrictions for the CGC Bluebell must be met.

2.2. Component Size. Modularity for the treatment system parts and consumables requiring replacement per manufacturer's maintenance schedule over the service life of the ship shall be capable of passing through standard doorways 26 inches wide by 66 inches high, reduced further by round corners on a 8 inch radius, and hatches 30 inches wide by 60 inches long, reduced further by round corners on a 7.5 inch radius.

2.3. Filtration. System is equipped with filtration system with a pre-filtration unit to achieve capabilities in Table III. A pre-filtration strainer may be installed with automatic backflush. The treatment system may include a filtration unit to solid matter in the influent. Solid matter removed from the influent is referred to as pretreatment waste. Process filtration must be capable of achieving effluent limits as identified in Table II and influent as identified in Table III at maximum flow rate. The projected influent concentration of constituents is defined in Table III.

2.4. Discharge Pressure. A treatment system producing waste solids shall be capable of delivering the waste solids at a discharge pressure that overcomes the static head loss when configured for overboard discharge or shore side removal, whichever is greatest. Static head losses seen by treatment system for waste solids removal to sea, and to a shore receiving station not to exceed 11 ft. The aerobic microbial digestion system must operate by removing biomass at a level of 98% efficiency or greater.

2.5. Backflow Prevention. The treatment system shall have the capability of preventing back flow of wastewater, through shipboard system supply and discharge interfaces. Any treatment system using ship supplied potable water shall be equipped with a reduced pressure principle sanitary back flow preventer

conforming to ASSE Standard 1013 to protect the ship's potable water from cross-contamination.

2.6. Use of air escapes. All wastewater, treated or untreated, and waste solids contained within the plumbing system and tanks shall be capable of being removed from the system at a discharge pressure that overcomes the static head loss as seen on the CGC BLUEBELL when configured for the overboard discharge or shore side removal, whichever is greatest. Pump capacity must demonstrate a minimum 41 ft head lift for discharge at a low tide.

2.7. Vapor/Gas Discharge. System is equipped and configured to vent discharged vapor/ gases. Any toxic, hazardous, flammable, explosive, or malodorous vapors produced by the treatment system shall not be vented, or allowed to escape into, any shipboard spaces. Any such vapors that are produced must be removed, diluted with air, or otherwise rendered safe before being discharged to the ship's overboard vent system or vented overboard independently. Any vapor discharges from the treatment system shall be compatible, with no evidence of deleterious effect, with the ship's overboard vent system (including carbon and corrosion resisting steel pipe and fittings), as applicable.

2.8. Accessibility of system for maintenance. When installed on the CGC BLUEBELL, the treatment system shall be constructed and arranged so that all major system assemblies, attachments, and non-hull integrated retention tanks are accessible for maintenance, repair, and replacement without requiring the removal of other major assemblies and temporary attachments. The maintenance access for system tanks shall be located near the top of the tank with an external access ladder provided where required. For systems where filter membranes, electrodes, or other components that must be routinely replaced, access shall be provided without the need to remove system components other than an access door or hatch.

2.9. Use of sampling ports. The treatment system shall allow manual sampling of the treatment system influent, treated effluent, sludge and vapors produced by the treatment system.

2.10. Redundant Pumps. The treatment system shall incorporate 100 percent redundancy for all pumps that are critical to meet system performance as specified herein. The vendor must supply a separate pump for capacity supply water.

2.11. Identification marking. All treatment system parts shall have permanently affixed and legible markings identifying the manufacturer's name, model and serial number, and inspection lot identification. In addition, electrical enclosures shall include permanently affixed and legible markings identifying the voltage, frequency, and maximum horse power rating, and low noise, if applicable. All system piping shall be identified for its specific service (i.e., potable water), pressure and direction.

3. Analysis

3.1. Material. Compliance with the material requirements shall be determined by inspection of manufacturer records providing proof or certification that materials conform to requirements. The contractor shall select the materials, but the materials selected shall be capable of meeting all of the requirements specified in this section. All materials shall be commercially available and conform to applicable marine standards and practices. The treated effluent shall be compatible, with no evidence of deleterious effect, with the ship's overboard discharge system, including 90-10 copper-nickel piping and bronze valves and fittings. Any vapor discharges from the treatment system shall be compatible, with no evidence of deleterious effect, with the ship's overboard vent system (including carbon and corrosion resisting steel pipe and fittings), as applicable. Applicable records shall include drawings, specifications, design data, receiving inspection records, processing and quality control standards, vendor catalogs and certifications, industry standards, test reports, rating data. Any hazardous and/or ozone depleting materials (as defined in section 3.2. below) used in the treatment system or system components or that is required to be used during its shipboard operation, shall be screened for material compatibility and compliance with environmental, safety and health (ESH) criteria for the CGC BLUEBELL to minimize potential hazards to human health and the environment.

3.2. Hazardous and ozone depleting materials. For the purpose of this specification, hazardous and ozone depleting materials are those that exceed the limits defined below that have been derived from federal and state regulations:

(a) Contains $\geq$1.0% by weight of any one or more of 29 chemicals/families as defined by the EPA 17-33/50 Program List and the Naval Environmental Health Center Priority I and II Lists.

(b) Contains $\geq$0.1% by weight of a carcinogen (known or suspect) as defined by the Occupational Safety and Health Administration (OSHA 29 CFR 1917.28 Appendix A), the International Agency for Research on Cancer (IARC) including materials listed in Group 1 (carcinogenic to humans), 2A (limited human data), and 2B (sufficient animal data), and the National Toxicology Program.

(c) Contains $\geq$ 1.0% by weight of one or more of 56 ozone-depleting substances (Class 1 and 2) as defined by the EPA Clean Air Act Amendments of 1990 (40 CFR 82).

(d) Exceeds specified Volatile Organic Compound (VOC) content (as defined in 40 CFR 51.100) equal to or greater than 340 grams per liter (2.8 pounds per gallon) for corrosion preventative materials or 880 grams per liter (7.3 pounds per gallon) for lubricant materials.

(e) Possesses Resource Conservation and Recovery Act (RCRA, 40 CFR 261) hazardous waste characteristic(s) such as flash point <140°F; pH < 2.0 or >12.5; or oxidizers.

(f) Contains ≥ 0.1% by weight of a reproductive hazard as defined by OPNAVINST 5100.23E 15 January 1999 Chapter 29 Occupational Reproductive Hazards and 31 March 1998 Navy Reproductive Hazards Review Board Meeting.

3.3. System weight. Compliance with the weight restriction shall be verified by analysis providing proof or certification that the treatment system will meet the weight restriction provided for the CGC BLUEBELL. The wet weight of the treatment system shall not exceed the weight budget of the CGC BLUEBELL. The maximum wet weight allowable for the treatment system is 11,200 lbs or 5080 kg. The maximum wet weight allowable includes pumps, controllers, and piping along with the MSD unit to be located within frames 32-44.

3.4. Influent pre-treatment and waste solids removal. Compliance with the following system requirements will be verified by analysis: Process filtration must be capable of achieving effluent limits as identified in Table II and influent as identified in Table III at maximum flow rate, with influent concentration of constituents as defined in Table III; All wastewater, treated or untreated, and waste solids contained within the plumbing system and tanks shall be capable of being removed from the system at a discharge pressure that overcomes the static head loss as seen on the CGC BLUEBELL when configured for the overboard discharge or shore side removal, whichever is greatest; Pump is properly sized to ensure capacity has a minimum 41 ft head lift for discharge at a low tide and pump is capable of overcoming distance from bottom of ship to discharge point; System must filter the source blackwater and graywater using an automated backflush filtration system and backflush system cannot utilize nor use potable or river/seawater (except for maintenance during offline periods); The aerobic microbial digestion system must operate by removing biomass at a level of 98% efficiency or greater.

3.5. Consumables volume. Consumable materials needed to support treatment system operation for a two-week deployment must be capable of being stored in the reserved storage space of 106 x 66 x 72 in (LxWxH) (which includes a removable 700-gallon tank of the CGC BLUEBELL). This shall be verified by analysis providing proof or certification that the treatment system will meet the consumables stowage volume restriction provided for the CGC BLUEBELL.

3.6. Safety (Acceptance inspection). The treatment system shall not present any uncontrolled safety or health hazards to operating or maintenance personnel while the system is secured or during operation. The treatment system shall safely transfer and hold all malodors, gases, smoke and toxic substances including collected wastewater, without risk of contamination or exposure to operating or maintenance personnel. Any fluid transfer subsystem shall prevent splatter, spillage, or other loss of liquids from any system component during operation or

when secured. This shall be verified a hazard analysis and by the demonstration during the functional and operational testing specified herein.

3.7. Sensors. All sensors used in the treatment system shall be calibrated to the minimum accuracy required by the sensor manufacturer. This shall be verified by analysis providing proof or certification that the system sensors are calibrated to the minimum accuracy required by the sensor manufacturer.

3.8. Chemicals in the influent. Review of documents provided by the vendor shall confirm that vendor has supplied a list of hazardous and/or ozone-depleting chemicals accompanied by their concentration amounts used in the system, including, as a subset of the list of hazardous and/or ozone depleting chemicals, a list of cleaning agents, solvents, or other shipboard chemicals along with the concentrations used under normal operations that can be tolerated by the treatment system.

4. Tests.

4.1. Hydrostatic pressure test. All pressurized portions of the acceptance treatment system shall be subjected to a hydrostatic pressure test. All portions of the treatment system designed to operate under pressure shall withstand a hydrostatic test pressure of 50 psi or 150% of the system design pressure as determined by the manufacturer, whichever is greater, using clean freshwater or seawater for a period of not less than 1 hour. When pressure is applied and maintained for the specified period, there shall be no sign of leakage, material deformation or rupture, or other defects that harmfully affect the performance and serviceability of the treatment system. The system shall be examined during and after the test to verify the system experiences no damage or defects as specified.

4.2. Electrical tests.

(a) Grounding and bonding. Treatment system electrical and electronic equipment, including chassis and frames of electrical equipment with conductive cases, shall be inspected and tested in accordance with MIL-STD-1310 to verify equipment bonding and grounding potentials and RF impedance do not exceed the limit. The treatment system functional interfaces with the ship systems shall be compatible with the applicable shipboard electrical power, data, hydraulic, and pneumatic supply characteristics defined in Table IV. Grounding and bonding of the treatment system electrical and electronic subsystems and equipment, including chassis and frames of electrical equipment with conductive cases to the ship's substructure, shall meet the electrical safety and effective low-impedance radio frequency (RF) connection requirements in MIL-STD-1310.

4.3. Control system functional test. The treatment system shall be tested as follows to verify the control system's functional operation.

(a) The treatment system shall provide the following modes of operation:

(1) Start-up (initialization): The treatment system shall include a start up mode in which power is turned on and, at a minimum, shall automatically accomplish the following:

(i) Achieve the internal operating parameters, such as temperature and pressure ranges, as recommended by the manufacturer to achieve steady state conditions needed for processing.

(ii) Display current and stored initialization data.

(iii) Prompt operator to make any required parametric changes.

(iv) Enter the standby mode or process mode, as determined by manufacturer.

(2) Standby mode: The treatment system shall include a standby mode in which the system shall power down automatically to a minimum power consumption level and remain ready for all other modes of operation. With the possible exception of compressed air, there is no flow into or out of the system in this mode. If necessary, the system shall automatically continue certain functions as needed by the design solution such as recirculation of the wastewater to avoid settling of solids in system tanks, and aeration to sustain the biomass. This operating mode shall allow the treatment system to stop processing if there is a problem.

(3) Process mode: The treatment system shall include a process mode in which the system automatically treats the wastewater influent. In this mode, the treatment system shall, at a minimum, automatically perform the following functions: receive the wastewater influent, control feed acceptance rate, transfer wastewater within the system, control internal pressure and temperature, replenish consumables (if applicable), perform operational self-cleaning cycles (if applicable), and deliver treated effluent. All operation of system equipment (i.e., pumps, blowers and valves) shall be automatic and based on instrumentation and programmable logic controller (PLC) or equivalent control. The system will be in full unattended automatic operation during this mode.

(4) Manual mode: The treatment system shall include a manual mode that overrides the automatic controls and interlocks, with exception of safety interlocks, to allow the following functions: local manual startup, operation for indefinite periods of time, manufacturers recommended maintenance including cleaning of system tanks, shutdown of the system, calibration of system

sensors including sequential monitoring of all sensors during adjustments, cycling of system pumps and valves to allow operator checks, and testing of the system lamps and alarms. Manual mode system operation shall not be adversely affected by the loss of the entire automatic control system or any individual element of the control system.

(5) Shutdown mode: The treatment system shall include a shutdown mode that safely returns the system to a non-powered state. The shutdown process shall be automatic and shall include all cleaning and purging actions needed to prepare the system for storage as well as subsequent startup.

(b) Monitoring and control. The control system shall monitor and automatically adjust the appropriate subsystems to maintain system operation and performance as specified herein and prevent operation that might result in damage to the system or endanger the ship or personnel. All subsystems shall self-monitor their respective operating parameters (i.e., flow, pressure). The control system shall incorporate a programmable logic controller (PLC) or equivalent and a message display unit that provides a visible display of system status and allows operator access to all modes and conditions. The control system shall incorporate a system control switch (STARTUP, STANDBY, PROCESS, MANUAL, and SHUTDOWN) to provide control between operating modes. Emergency shut down switches shall be provided locally near the treatment system control panel, as well as remotely outside the space containing the treatment system. An elapsed-time meter shall be provided for each system pump. Emergency shutdown or automatic restart of the system shall be controlled and shall not cause a hazardous condition to the ship or personnel. The treatment system shall go into an automatic fail-safe shut down, as determined by the manufacturer, upon entering any operating condition that might result in damage to the system, or endanger the ship or personnel. The treatment system shall restart operation automatically upon power return after a power loss to the system. The treatment system shall activate audible and visual alerts and alarms as specified herein. The treatment system shall have the means for logging data on all alerts and alarms triggered by the system.

(1) Audible alerts and/or alarms. The treatment system shall provide audible alerts and/or alarms that automatically sound. The control system shall have the capability for the operator to acknowledge the alarm signal and silence/mute the audible signal for silent operations. All treatment system audible alerts and/or alarms shall remain active until the alert/alarm cause is corrected. All treatment system audible alerts and/or alarms shall employ procedures to prevent inadvertent or nuisance alerts and/or alarms during transient operations (i.e., system start-up, shutdown) or

from transient conditions (i.e., electrical spikes or pulses, electronic noise, ship's dynamic motion).

(2) Visual alerts and/or alarms. The treatment system shall provide visual alerts and/or alarms both locally at the control panel and remotely. The control system shall have the capability for the operator to acknowledge the visual alert and/or alarm. All treatment system visual alerts and/or alarms shall remain in the viewing area until the alert/alarm cause is corrected. Visual alert and/or alarm indicators shall show what caused the alert and/or alarm. Visual alarms shall be provided for any operating condition that might result in damage to the system, failure of the system, or endanger the ship or personnel. All visual alerts and/or alarms shall employ procedures to prevent inadvertent or nuisance alerts and/or alarms during transient operations (i.e., system start-up, shutdown) or from transient conditions (i.e., electrical spikes or pulses, electronic noise, ship's dynamic motion).

(3) Displays. The treatment system shall display in English standard units the real time status of the system locally at the control panel and remotely. The information displayed shall include, but not be limited to, key operating parameters such as treatment status, volume of treated effluent, internal pressure, vacuums, operating hours of equipment, and system temperature.

(4) Data acquisition and retrieval. The treatment system shall, at a minimum, monitor, save data values necessary for proper troubleshooting and allow retrieval of data by trained personnel of the status conditions and operating parameters as determined by the manufacturer. A service line shall be readily available and supplied by the vendor for troubleshooting. Data retrieval shall be available within a 6 month period.

(5) Sensors and instruments. All sensors used in the treatment system shall be calibrated to the minimum accuracy required by the sensor manufacturer.

(c) Testing. For the duration of these tests, the system shall be filled with clean tap water. These tests shall be performed prior to acceptance testing. Verification of the data acquisition and retrieval functionality shall be accomplished as specified acceptance inspection.

(1) With the treatment system powered ON, turn the control panel into all available modes of operation in accordance the manufacturer's instructions to demonstrate the functional operation in 4.3 (b) (Monitoring and control), 4.3(b)(1) (Audible alerts and/or alarms), and 4.3(b)(2) (Visual alerts and/or alarms). Verify that all mode switching occurs without any electronic errors and

that the message display clearly indicates which mode the system resides. Verify the displays indicate as specified in 4.3(b)(3) (Displays).

(2) Inspect the treatment system to verify that it is equipped with local and remote emergency shutdown switches. Separately activate each switch while the system is in operation to demonstrate emergency shut down is accomplished as specified in 4.3(b) (Monitoring and control).

(3) Operate the treatment system in the automatic processing mode. After 1 hour of operation, simulate a catastrophic tank leakage for one system retention tank by manually draining the contents to demonstrate the audible and visual alarms react as specified in 4.3(b)(1) (Audible alerts and/or alarms) and 4.3.(b)(2) (Visual alerts and/or alarms) and fail-safe shutdown reaction as specified in 4.3(b) (Monitoring and control). Repeat this test for all other system retention tanks. During this test, verify that all elapsed time meters function as specified in 4.3.(b)(4) (Data acquisition and retrieval).

(4) Operate the system in the automatic processing mode and then either create a high discharge backpressure condition by shutting off the discharge valve leading from the treatment system under test, or simulate via PLC or control system. Verify the system alarms as specified in 4.3(b)(1) (Audible alerts and/or alarms) and 4.3.(b)(2) (Visual alerts and/or alarms) and goes into fail-safe shutdown as specified in 4.3(b) (Monitoring and control).

(5) If pneumatically operated devices are used in the system, shut off the air supply while the treatment system is in operation to demonstrate the system either alerts or alarms as specified in 4.3(b)(1) (Audible alerts and/or alarms) and 4.3.(b)(2) (Visual alerts and/or alarms) and goes into fail-safe shutdown as specified in 4.3(b) (Monitoring and control). Furthermore, verify the valves fail-safe closed.

(6) All alert and alarm conditions shall be simulated to demonstrate the following: audio alerts and alarms function as specified in 4.3(b)1) (Audible alerts and/or alarms), visual alerts and alarms function as specified in 4.3(b)(2) (Visual alerts and/or alarms), and fail-safe shut down is accomplished as specified in 4.3(b) (Monitoring and control).

(7) All sensors shall be tested to demonstrate that they display readings throughout the course of system testing.

(d) Data acquisition/retrieval test (acceptance). For acceptance inspection, compliance with the data acquisition and retrieval requirements in 4.3(b)(4) (Data acquisition and retrieval) shall be demonstrated during an operability test. This test shall be of duration sufficient to ensure that all data acquisition and retrieval requirements are met. During the test, the status of all saved data shall be viewed at least once to ensure data is saved in accordance with the manufacturer's specifications. All data sets from the control system PLC or equivalent saved during this test shall be downloaded at least once, then uploaded and viewed on a laptop computer that includes software as required to demonstrate the ability to retrieve data in accordance with the manufacturer's specifications.

4.4. Acceptance operational test. This test shall demonstrate that the acceptance treatment system meets the operational capabilities specified herein for the CGC BLUEBELL. This test, which is a series of sub-tests, shall demonstrate that a wastewater treatment system meets the operational capabilities specified herein. The treatment system shall be operated and maintained in accordance with the manufacturer's instructions during the test. The text mixture for this test shall be composed of the available shipboard wastewater generated during the test period. For each contaminant, effluent samples shall meet the effluent discharge standard in Table II at the statistical confidence levels throughout the entire course of the operational test. Sampling shall be performed by the US Coast Guard or by an organization, other than the vendor, designated by the US Coast Guard. The following shall be performed:

(a) Cold start test. The treatment system shall be subjected to a cold start test, processing available ship influent, in order to demonstrate the system's ability to comply with the target effluent discharge standard in Table II within the "cold start" time constraint. The system shall meet the effluent quality and hydraulic requirements specified herein, or alternate requirements for the target waste stream and discharge standard within 120 hrs from beginning of system "start-up" (initialization) when the bio-mass tank is in an empty-tank condition (cold start). The treatment system shall be placed into the automatic START-UP mode to begin the test. System feed and effluent sampling shall be as specified in 4.5(a).

(b) Processing and effluent quality test. The treatment system shall be subjected to a processing test lasting a minimum of 14 consecutive days of normal operation after steady state conditions are achieved, as required. System feed and effluent sampling shall be as specified in 4.5(a). This processing test is the main evaluation procedure of this acquisition specification and shall demonstrate compliance of the system to meet effluent quality and removal at the statistical confidence levels in Table II and processing capabilities of the system that shall be capable of processing 500-800 gallons/day for graywater and 16 gallons/day for blackwater underway. When in port the system needs to be capable of processing 100-300 gallons total black and graywater per day.

Furthermore, the system shall be capable of processing for a period up to 10 days at the maximum flow rate for the target waste stream and number of ship accommodations served.

(c) Maximum temperature and pressure test. During the "processing test" above, the treatment system shall demonstrate compliance with the maximum operating temperature and pressure requirement of normal operating condition, at no point in the treatment system shall a temperature above 250°F coexist with a pressure above 15 psig.

(d) Waste solids holding test. During the "processing test" above, the treatment system shall demonstrate compliance with the waste solids holding requirement of the treatment system shall be capable of retaining all system generated waste solids for the period required by ship mission of the CGC BLUEBELL for near shore operations. The maximum time between sludge ashore discharge is 10 days. The treatment system shall be capable of meeting this requirement while operating at rated capacity and producing an effluent discharge as specified herein. The system shall record when it begins to discharge sludge.

(e) Data acquisition/retrieval test. For the acceptance inspection, compliance with the data acquisition and retrieval requirements in 4.3(b)(4)shall be demonstrated during the "processing test" above. The status of all saved data shall be viewed once per day during the processing test to ensure data is saved in accordance with the manufacturer's specifications. No data shall be erased until after the completion of the processing test in order to verify the system can retrieve and store data for the period determined by the manufacturer.

(f) Minimum processing and effluent quality test. Upon successful completion of the processing test in 4.4(b), the treatment system shall be subject to a minimum processing test. System feed and effluent sampling shall be as specified in 4.5(a). Performance shall be demonstrated under the ship conditions presented with the available ship complement during the test period in port for 5 consecutive days, which shall include one weekend. This processing test shall demonstrate compliance of a system to meet effluent discharge standards in Table II and the processing capabilities for minimum daily hydraulic loading rates in 4.4(b).

(g) Hot start test. Upon successful completion of the minimum processing and effluent quality test above, the treatment system shall be shutdown for a period of 12 hours to simulate the maximum time to repair a failure. The system shall then be restarted as a "hot start", processing available ship influent (composed of available shipboard wastewater generated during the test period), to demonstrate the system's ability to comply with the target effluent discharge standard in Table II. Within the "hot start" time constraint, the system shall meet all effluent quality and hydraulic requirements specified herein, or alternate requirements for the

target waste stream and discharge standard within 24 hrs after the system has been restarted as a "hot start" following a shutdown period of 12 continuous hours.. Feed and effluent sampling shall be as specified in 4.5(a).

(h) System evacuation test. Upon successful completion of the "processing test" above, the treatment system shall be emptied to demonstrate compliance with the drain requirement. All wastewater, treated or untreated, and waste solids contained within the plumbing system and tanks shall be capable of being removed from the system at a discharge pressure that overcomes the static head loss as seen on the CGC BLUEBELL.

(i) Tank washdown test. At the conclusion of the "evacuation test" above, internal surfaces will be washed down to demonstrate compliance with the tank cleaning requirements. The treatment system shall be capable of being flushed using treated effluent, if produced, or ship supplied seawater or freshwater to wash down all internal surfaces of the system tank vessels. The wash down water and tank residue shall be discharged from the system. Pump, piping and associated valves and fittings will not be supplied by ship for wash downs. Upon completion of the cleaning cycle, the treatment system shall be emptied and inspected to ensure the device has been cleaned to the satisfaction of the government.

4.5. Sampling and analysis.

(a) Sampling for cold start, processing, and hot start tests. Effluent samples shall be taken and analyzed for each of the following contaminants: BOD_5, TSS, FC, pH, oils and greases, and total residual chlorine. TSS samples will be taken and analyzed to demonstrate that the filtration system is of acceptable quality. The aerobic microbial digestion system must operate by removing biomass at a level of 98% efficiency or greater as measured by BOD_5. Fecal Coliform samples will be taken and analyzed post ultraviolet treatment to demonstrate disinfection. In addition, influent samples shall be taken for each parameter listed above. The influent samples shall be taken concurrently with each treated effluent sample taken in order to monitor feed concentrations for shipboard evaluations. All samples shall be analyzed as specified in 4.5(b). Further sampling requirements for specific test types are provided below.

(b) Cold start test sampling. This sampling method shall be used to establish compliance with the target effluent discharge standards in Table II within the "cold start" time constraint in 4.4(a). Triplicate effluent samples for each contaminant shall be collected within 120 hrs. to verify compliance with 4.4(a) and mark the end of the cold start test. In addition, influent samples of the combined graywater/blackwater waste stream shall be taken concurrently with each treated effluent sample taken. Cold start samples shall not be included in the processing test analysis.

(c) Processing test sampling. This sampling method shall be used to establish compliance with the effluent quality and statistical confidence requirements in Table II. At a minimum, 40 effluent samples for each contaminant listed in 4.5(a) shall be collected within the minimum test duration of 10 days, sampling at a rate of four samples per day. Three samples per day shall be obtained at 8-hr intervals, plus one sample per day at maximum daily flow, for a processing test total of 30 samples at average daily flow and 10 samples at maximum daily flow. More samples may be taken at the manufacturer's discretion, however the minimum test duration of 10 days shall not change.

(d) Minimum processing test sampling. This sampling method shall be used to establish compliance with the effluent quality requirements in Table II. Twenty (20)-consecutive effluent samples for each contaminant in Table II shall be collected within the test duration of 5-consecutive days. In addition, 20-consecutive influent samples for each contaminant listed in 4.5(a). for the combined graywater/blackwater waste stream shall be taken concurrently with each treated effluent sample taken. A total of four (4) samples per each 24-hour period shall be obtained. Sampling shall consist of four (4) samples per day obtained at 6-hour intervals for a total of twenty (20) samples at minimum daily flow.

(e) Hot start test sampling. This sampling method shall be used to establish compliance to the target effluent discharge standards in Table II within the "hot start" time constraint in 4.5(a). Triplicate effluent samples for each contaminant shall be collected no later than 24 hrs. following re-start. In addition, one influent sample of the combined graywater/blackwater waste stream shall be taken concurrently with the treated effluent sample taken. Hot start samples shall not be included in the processing test analysis.

(f) Analysis methods. Concentrations for BOD5, TSS, FC, O&G, and Total Available Chlorine shall be measured by an Environmental Protection Agency (EPA) certified laboratory using Standard Methods from "Standard Methods for the Examination of Water and Wastewater" (see 2.3) as follows:

(1) Standard Method 5210B for BOD_5.

(2) Standard Method 2540D for TSS.

(3) Standard Methods 9221C,E and/or 9222D for FC.

(4) Standard Method 1664 for O&G.

(5) Standard Method 4500-Cl G for Total Available Chlorine.

(g) Reliability. The treatment system shall demonstrate it can achieve acceptable reliability during operational testing. Shutdowns or

interruptions resulting from failures external to the system, such as loss of ship service air or electrical power, will be exempted as a system failure. For testing purposes, a failure is defined as any malfunction that requires corrective maintenance action or that results in:

(1) Degradation of performance below specified levels provided by the vendor for the system.

(2) Damage to the treatment system by continued operation.

(3) Safety hazard to personnel.

(4) Safety. The treatment system shall not present any uncontrolled safety or health hazards to operating or maintenance personnel while the system is secured or during operation. The treatment system shall safely transfer and hold all malodors, gases, smoke and toxic substances including collected wastewater, without risk of contamination or exposure to operating or maintenance personnel. Any fluid transfer subsystem shall prevent splatter, spillage, or other loss of liquids from any system component during operation or when secured.

(h) Human factors. All man-to-machine interfaces, such as controls, displays, alerts and alarms, labeling, environment and accessibility, shall be suitable for user personnel with fifth through ninety-fifth percentile anthropometrical data as defined in ASTM F 1166.

TABLE I. Inspection requirements			
Attribute	Requirement	Verification method	Acceptance inspection
Material	3.2	3.1	X
Physical characteristics	3.4		
Physical size	3.4.1	2.1	X
Weight	3.4.2	3.3	X
Modularity	3.4.3	2.2	X
Processing requirements	3.6		
Process rate	3.6.1	4.4(a)	X
Max temperature and pressure	3.6.1.1	4.4(b)	X
Cold Start	3.6.1.2	4.4(a)	
Hot Start	3.6.1.3	4.4(g)	
Chemicals in the Influent	3.6.1.4	3.8	
Effluent quality and removal	3.6.2		
Effluent discharge standards	3.6.2.1	4.4(a)	X
Effluent removal	3.6.2.2	4.5	X
Waste solids management	3.6.3		
Waste solids holding capacity	3.6.3.1	4.4(d)	X
Influent pre-treatment	3.6.3.2	3.4	X
Filtration system may include a pre-filtration unit to achieve capabilities in Table Ia and a process filtration unit.	3.6.3.2	3.4	X
Biomass of 98% efficiency or greater	3.6.3.3	3.4	X
Waste solids removal	3.6.3.3	3.4	X
Tank volume	3.6.3.4		
Consumables volume	3.6.4	3.5	X
Tank cleaning	3.6.5	4.4(i)	X
Back flow prevention	3.6.6	2.5	X
System evacuation	3.6.7	4.4(h)	X
Vent discharge/vapor gases	3.6.8	2.7	X
Control System	3.6.10.1- 3	4.3	
Data acquisition and retrieval	3.6.10.4	4.3(b)(4)	X
Sensors and instruments	3.6.10.5	3.7	X
Shipboard interfaces	3.7		

Ship functional interface	3.7.1		
Ship physical interfaces	3.7.2	2	X
Hydrostatic integrity	3.8	4.1	X
Sampling ports & Redundant Pumps	3.9.3, 3.9.4	2.9, 2.10	X
Safety	3.10	3.6	X
Identification Markings	3.11	2.11	X
Human factors	3.12	4.5(h)	X

TABLE II. Effluent discharge Requirements.		
Parameter		Requirement
Biochemical Oxygen Demand (BOD_5)[1]	mg/L	≤ 40 (7 DAY AVERAGE)
Total Suspended Solids (TSS)	mg/L	≤ 40 (7 DAY AVERAGE)
Fecal Coliform (FC)	MPN[2]/100 mL	≤ 18 (7 day Average and < 10% of any sample > 40)
PH		6-9
Oils and Greases	mg/L	≤15
Total Residual Chlorine	μg/L	≤ 10

TABLE III. Projected Influent Concentrations of Constituents.		
Parameter	Requirement	
Biochemical Oxygen Demand (BOD_5)[1]	mg/L	200-1400 (7 DAY AVERAGE)
Total Suspended Solids (TSS)	mg/L	200-800 (7 DAY AVERAGE)
Oils and Greases	mg/L	30-90

TABLE IV. Shipboard interfaces.	
System interface	Ship interface (ship side of the interface)
Blackwater Supply	System: Vacuum Collection System Physical: connection in accordance with (IAW) MIL-STD-777, Category R, Group 4. Supply characteristics: Temperature: 36°F to 90°F
Graywater Supply	System: Graywater Collection System Physical: connection IAW MIL-STD-777, Category R, Group 3. Galvanized steel shall not be used for vents. Supply characteristics: Temperature: 36°F to 150°F
Treated Effluent Discharge	System: Overboard Discharge System Physical: connection IAW MIL-STD-777, Category R, Group 1.
Sludge and/or Screening Waste Discharge	System: Sewage Transfer System with Pier Connection Physical: connection IAW MIL-STD-777, Category R, Group 4.
System Drain	System: Sewage Transfer System with Pier Connection Physical: connection IAW MIL-STD-777, Category R, Group 4.
Tank Vent	System: Overboard Vent System Physical: connection IAW MIL-STD-777, Category Y, Group 3. Galvanized steel shall not be used for vents.
Off-gas Vent	System: Overboard Vent System Physical: connection IAW MIL-STD-777, Category Y, Group 3. Galvanized steel shall not be used for vents.
Potable Water Supply (if used)	System: Potable Water System (if used will require pump, piping, valves, etc.) Physical: connection IAW MIL-STD-777, Category C, Group 2. Supply characteristics: Pressure: 60 psig Flow rate: 10 gpm Temperature: 70 °F Bromine or chlorine residual: 0.2 mg/L
Compressed Air Supply (if used)	System: Compressed Air Service System Physical: connection IAW MIL-STD-777, Category J, Group 4. Supply characteristics: Pressure: 125 psig Wet bulb temperature: 81°F (assuming space temp. is 90°F max) Hydrocarbon Contaminant: Max. 50 ppm by weight Particulate Contaminant: Max. 5 micron
Seawater Supply (if used)	System: Sea Water Service System (if used will require pump, piping, valves, etc.) Physical: connection IAW MIL-STD-777, Category D, Group 1. Supply characteristics: Pressure: 100 to 175 psig Flow rate: 100 to 200 gpm Temperature: 28°F to 85°F

Electrical Power Supply	System: Electrical Power Distribution System Physical: Conductor identification of control and signal cables IAW IEEE 45. Supply characteristics: 208Y/120 Vac, 60 Hz, 3 phase, ungrounded, not to exceed 5 kw.